How to Perform a Successful Dual Flight
Video Transcript

Prepared by
Sterling Field Support Center

U.S. DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
National Weather Service/Office of Operational Systems
Field Systems Operations Center/Observing Systems Branch

Title Page
(00:00-00:12)
-No Audio-

Observer walking to Inflation Bay
(00:13-00:23)
Narrator: "After starting warm up operations with RWS and the MicroART in the lab, proceed to the inflation bay with an HM32 balloon, two parachutes, and the preassembled flight bar."

Balloon filling with gas
(00:24-00:30)
Narrator: "Apply the appropriate weights and begin filling the balloon according to National Weather Service safety procedures."

Observer placing dual flight bar on Radiosonde Test Stand (RTS)
(00:31-00:47)
Narrator: "As the balloon is filling, begin preparing the flight train. Place the dual flight bar on the stand and make sure the strings extending from the bar are hanging smoothly. Notice one string has a pre-made knot, which will be used for the Vaisala radiosonde."

Observer attaching top parachute to the flight train
(00:48-00:57)
Narrator: "Unroll the first parachute and stretch it out on the table. This one will be tied to the balloon neck shortly."

Observer attaching bottom parachute to the flight train
(00:57-01:11)
Narrator: "Do the same for the second parachute, laying it on the table below the first. This one will be tied to the bottom of the first parachute and will connect the balloon with the flight train."

Observer preparing the string and flight train
(01:12-01:22)
Narrator: "Cut a piece of double strand cord that is approximately 4 meters in length, or about 14 feet."

Observer demonstrating tying the knots for the parachute
(01:23-01:55)
Narrator: "To tie the knot, match the two ends, cross over the cord, and bring the two ends up through the center hole. Take the knot and put it through the loop on the top of the parachute. Continue to pull the cord before taking the knotted end and bringing it back though the middle. Pulling the knotted end all the way through until and tight connection is made will lower the chances of the parachute becoming detached. This should be done for both the first and second parachute."

Observer demonstrating tying the parachutes together
(01:56-02:11)
Narrator: "After this is complete, take the bottom cord from the first parachute and the knotted cord that you just looped through and make a knot just like the one that was made earlier."

Partially completed flight train
(02:12-02:19)
Narrator: "This portion of the flight train is complete. Inspect all knots and make sure everything is secure for the flight."

Observer completing remaining flight train
(02:20-03:00)
Narrator: "Complete the flight train by taking the end of the cord and walking the from the inflation bay. Adjust the remainder of the train so that the total length meets the requirements of 21-37 meters, or 70-120 feet. Again, this depends on the wind speed and dominant weather conditions at the time. This cord will then be tied to the end of the cord extending from the flight bar."

Observer attaching parachute with bottom portion of flight train
(03:01-03:15)
Narrator: "With the other end of the flight train, tie the same knot as before with the cord of the bottom parachute."

Observer tying off balloon neck
(03:16-03:30)
Narrator: "After the balloon has finished filling and the gas has been shut off, begin tying off the balloon neck so that no gas can escape. Then, make another knot by pointing the excess balloon neck upward and tying the cord around it once again."

Observer tying radiosondes to flight bar
(03:31-03:51)
Narrator: "Once all radiosonde preparation and procedures have been completed inside the lab, tie the radiosondes to the strings extending from the flight bar. The loop should be slipped through the gaps in the eyelet of the Vaisala radiosonde. Then, tie the B2 sonde on the other side at the same height as the Vaisala. It is very important to make sure they are hanging at the same height."

Observer bringing balloon from the Inflation Bay
(03:52-04:19)
Narrator: "After inspecting the release zone for obstacles and dangers, bring the balloon out of the bay. Both observers should be facing one another which will allow for better control of the flight bar when the balloon is released. While one observer is releasing the balloon, the other should keep a loose grip on the flight bar, holding it above and away from their body. The bar will be lifted by the balloon out of the observer's hands."

Observer utilizing Remote Control Display Unit (RCDU)
(04:20-04:33)
Narrator: "After release, the observer can use the remote CDU to verify frequency and TRS position for the Vaisala radiosonde. For the B2 sonde, use the remote release panel, turn up the speaker volume to check for a clean signal."

Balloon and flight train ascending into the air
(04:34-04:41)
Narrator: "Once the balloon is in the air, return back to the lab and utilize plots and displays to continue to track the radiosondes."

Title Page
(04:42-05:00)
-No Audio-